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OCCASIONAL PAPER

Conflict with China

Prospects, Consequences, and Strategies for Deterrence

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Prepared for the United States Army

Approved for public release; distribution unlimited



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Preface

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Summary

Over the next twenty years, China's gross domestic product (GDP) and defense budget could grow to exceed those of the United States, allowing it to become a true peer competitor. Despite this potential, we believe China's security interests and military capabilities will remain focused on its immediate periphery. Possible conflicts might arise there involving Korea, Taiwan, one or more countries of Southeast Asia, or India, more or less in that descending order of probability. A U.S.-China conflict might also start in—and perhaps be entirely confined to—cyberspace. We do not assess armed conflict between the United States and China as probable in any of these instances, but that judgment is based on an assessment that the United States will retain the capacity to deter behavior that would lead to such a clash.

American ground forces will be essential for the most likely East Asia contingency, that arising from a Democratic People's Republic of Korea (DPRK) collapse, but less so for the others. While China's overall military capabilities will not equal those of the United States anytime soon, it will more quickly achieve local superiority in its immediate neighborhood, first in and around Taiwan and then at somewhat greater distances. In consequence, the direct defense of contested assets in that region will become progressively more difficult, eventually approaching impossible. The United States will therefore become increasingly dependent on escalatory options for defense and retaliatory capabilities for deterrence. American nuclear superiority is not likely to be much help in this regard, both because China will retain a second-strike capability and because the issues at stake in most potential crises are not of vital consequence to the United States. Conflict is likely to escalate into the cyber and economic realms. In both cases, U.S. vulnerabilities are such as to make this unattractively costly. Conventional strikes on mainland Chinese military targets may be the best escalatory option, but there is little reason to be confident that conflict could be so confined.

One means of improving the prospects for direct defense and reducing the risk of escalation is for the United States to enable the capabilities and buttress the resolve of China's neighbors. Such a strategy should not be—or be seen—as a U.S. attempt to encircle or align the region against China, lest it produce greater Chinese hostility. Indeed, a parallel effort should be made to draw China into cooperative security endeavors, not only to avoid the appearance of an anti-China coalition but also to obtain greater contributions to international security from the world's second-strongest power.

The economic consequences of a Sino-American conflict could be historically unparalleled, even if both sides avoid economic warfare. This is a powerful mutual deterrent, one marginally in the American favor at present. Strengthening the U.S. economy is the best way of ensuring that the balance of interdependence and of the associated deterrence does not shift dangerously against the United States over the next several decades.

While the risk of conflict with China cannot be ignored, neither should it be exaggerated. Any number of other conflicts are more likely. These more likely conflicts will be with opponents quite different from China and will call for capabilities quite dissimilar from those required to deal with a real peer competitor. Individually, these contingencies will be less consequential than a conflict with China, but collectively they will shape the international environment in which both countries interact and fundamentally influence Chinese perceptions of U.S. power and determination.

Glossary

ASAT	Anti-Satellite Weapon
BMD	Ballistic Missile Defense
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CBRNE	Chemical, Biological, Radiological, Nuclear, High-Yield Explosives
DMZ	Demilitarized Zone
DPRK	Democratic People's Republic of Korea
EEZ	Exclusive Economic Zone
GDP	Gross Domestic Product
ICBM	Intercontinental Ballistic Missile
KPA	Korean People's Army
MAD	Mutual Assured Destruction
MAED	Mutual Assured Economic Destruction
MIRV	Multiple Independently Targetable Reentry Vehicle
MRV	Multiple Reentry Vehicle
NEOs	Noncombatant Evacuation Operations
PACOM	Pacific Command
PLA	People's Liberation Army
ROK	Republic of Korea
ROK/U.S.	Republic of Korea/United States
Shenyang MR	Shenyang Military Region
SLBM	Submarine Launched Ballistic Missile
SOF	Special Operations Forces
U.S.	United States
USFK/CFC	United States Forces–Korea/Combined Forces Command
WMD	Weapons of Mass Destruction

Conflict with China: Prospects, Consequences, and Strategies for Deterrence

Over the next twenty years, China's gross domestic product (GDP) and defense budget could exceed those of the United States.¹ If it chose, China could therefore become a more capable opponent than either the Soviet Union or Nazi Germany at their peak. Yet China is seeking neither territorial aggrandizement nor ideological sway over its neighbors. It shows no interest in matching U.S. military expenditures, achieving a comparable global reach, or assuming defense commitments beyond its immediate periphery. Such intentions might change, but if so, the United States would probably receive considerable warning, given the lead times needed to develop such capabilities.

Despite cautious and pragmatic Chinese policies, the risk of conflict with the United States remains, and this risk will grow in consequence and perhaps in probability as China's strength increases. Below we review the sources of conflict we believe most likely to occasion a China-U.S. military clash over the next thirty years, arrayed in descending order of probability. All are on China's immediate periphery, where we believe Chinese security interests and capabilities will remain focused. **We do not believe a China-U.S. military conflict to be probable in any of the cases**, but that judgment is based on the view that the United States will retain the capacity to deter behavior that could lead to such a clash throughout this period. After reviewing the plausible sources of conflict, we turn to the operational implications these scenarios might present the United States and the resultant requirements for defense and deterrence. We examine the capabilities the United States will need to maintain to ensure that a conflict with China does not occur, and conclude with thoughts on America's long-term strategy for dealing with the challenges posed by a rising China.

¹ China's economy is expected to grow at roughly twice the rate of the American over the next fifteen years. At market exchange rates, China's GDP is about 40 percent of the U.S. GDP, and RAND estimates that by 2025 it will be about half. China currently commits about 2.5 percent of its GDP to defense expenditures, roughly half the current American rate. Although Chinese defense spending has risen significantly in recent years, keeping pace with and even exceeding overall economic growth, the U.S. defense budget has, since 2001, grown even faster. Thus in 2000 the U.S. defense budget was seven times that of China, and in 2010 it was ten times bigger. As the wars in Iraq and Afghanistan wind down, the U.S. rate of spending is likely to decrease, although probably not to Chinese levels. By 2025, RAND estimates that Chinese defense spending will probably be somewhat more than half of America's. Of course, all Chinese defense spending will be focused on the Western Pacific, whereas only a fraction of America's will be relevant to that region.

These figures are much disputed in both the academic and intelligence communities. They rest on the somewhat shaky foundation of current trends extrapolated far into the future. Using purchasing power parity rather than market exchange rates, China catches up to and surpasses the United States much more quickly. Purchasing power parity is a better reflection of personnel costs, while market exchange rates better capture equipment costs, particularly high-tech equipment, which tends to be the area of U.S.-Chinese competition of most concern to the United States.

Occasions for Conflict

North Korea

A North Korean collapse could emanate from a failed economy, a contested power transition after the death of Kim Jong-il, or defeat in a war with the South. In any such scenario, the situation in North Korea would likely be chaotic and confused. Hundreds of thousands, perhaps millions, of civilians would migrate toward North Korea's borders in search of food and safety from clashes between rival armed groups. Collapse of central control would also jeopardize the security of the North's weapons of mass destruction (WMD) and missile assets China might fully mobilize in the Shenyang Military Region (Shenyang MR), and could well send sizable forces cross the Yalu in an effort to sort out refugee flows on the Korean side of their border.

The immediate operational concerns for United States Forces–Korea/Combined Forces Command (USFK/CFC) would be to secure ballistic missile launch and WMD sites. If any coherent North Korean army remained, neutralizing Korean People's Army (KPA) long-range artillery threatening Seoul could also be needed. For these missions, special operations forces (SOF), forced entry, and airlift capabilities will be at a premium. China meanwhile would view the insertion of U.S. and Republic of Korea (ROK) forces north of the DMZ with concern, and might move its own forces in, if it had not already begun to do so, both to contain the disorder and preempt a ROK/U.S. takeover of the entire country.

While the ROK would provide sizable forces and capabilities for these missions, they would be inadequate to deal with the scope and complexity of a complete DPRK collapse. Substantial and extended commitments of U.S. ground forces would be required to rapidly seize and secure numerous locations, some with vast perimeters. SOF and dedicated chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) units will be insufficient to deal with the situation.

The likelihood of confrontations, accidental or otherwise, between U.S. and Chinese forces is high, with significant potential for escalation. Beyond the pressures to intervene and deal with the immediate consequences of a failed DPRK, the United States will be forced to confront the thorny issue of the desired end-state: unification (the preferred outcome of our ally, the ROK) or the continued division of Korea (China's strong preference).

Taiwan

While relations between China and Taiwan are improved and improving, no meaningful progress has been made on the key issue between the two states, which is if, when, and how the island's ultimate status—as an independent polity or as part of a “reunified” China—will be determined. The chance of conflict across the Taiwan Strait will remain so long as this fundamental disagreement persists.

A cross-Strait conflict could take many forms, from a Chinese blockade of Taiwanese ports, to varied levels of bombardment of targets on Taiwan, to an outright invasion attempt. Should the United States engage directly in any such contingency, its goals would be to prevent Chinese coercion or conquest of Taiwan and limit to the extent possible the damage inflicted on Taiwan's military, economy, and society. Core missions for the United States would include preventing China from gaining air and sea dominance, and limiting the impact of Beijing's land-attack missiles, all achieved through flexible combinations of active and passive defense and offensive action, to include the possibility of U.S. strikes on mainland targets associated with the offensive against Taiwan, with all the attendant risks of further escalation. Indeed,

China might well anticipate and seek to preempt such U.S. actions with attacks of its own on U.S. assets in the region.

As China's military modernization progresses, the U.S. ability to confidently accomplish these missions is eroding. In the near term, China is deploying capabilities that threaten U.S. land and sea power projection platforms—air bases and aircraft carriers—as well as Taiwan's own defenses. Absent an unlikely reversal in the ongoing rebalancing of military power in the area, and even recognizing the very considerable difficulties in mounting an amphibious assault against determined local resistance, a direct defense of Taiwan has already become a challenge and is likely to become increasingly difficult in coming years.

Cyber-Space

Sino-U.S. cyber-war could be an aspect of—or prelude to—armed hostilities. Or it could begin and stay in cyber-space. This case is confined to that domain, though with some danger of triggering armed conflict.

Having conducted repeated intrusions into U.S. networks to exfiltrate sensitive data without U.S. reprisal, the People's Liberation Army (PLA) might seek and receive authority to interfere with U.S. intelligence collection and dissemination on Chinese strategic-nuclear programs. Chinese civilian leaders might not grasp that such operations would be defined as cyber-attack by the United States and thus lead to retaliation. The attack could disrupt systems the United States relies on for critical intelligence, including warning. If confident that the PLA was the attacker, the United States might decide to retaliate. Given that corresponding PLA intelligence networks are not easily accessed, and choosing to signal dangers of escalation, the United States might retaliate against networks that support Chinese transport systems, including commercial shipping as well as military logistics. The impact on Chinese trade could be immediate. In addition, because the U.S. ability to observe Chinese forces had been impaired, Pacific Command (PACOM) might be told to increase the readiness of its forces. While China does not want armed conflict, it could respond by conducting “soft-kill” attacks (e.g., link interference) on U.S. satellites that serve the Pacific command, control, communications, computer, intelligence, surveillance, and reconnaissance (C4ISR) grid, to which the United States responds in kind. Because both Chinese and U.S. network defenses are of limited value against such large and sophisticated attacks, both sides might resort to counter-attacks in hopes of restoring deterrence.

In the ensuing escalation, both China and the United States could suffer temporary but major disruptions of critical networks, precipitating shocks in stock, currency, credit, and trade markets. Although both sides avoid escalation to armed force, economic damage would be considerable. Sino-U.S. cooperation on Iran would likely come to a halt, and the situation in Korea could heat up. There are no lives lost—just extensive harm, heightened antagonism, and loss of confidence in network security. There would be no “winner.”

South China Sea

There are numerous potential flash points in the South China Sea region. China's assertion of some degree of sovereignty over virtually the entire area rubs up against the rival claims of numerous other states, and the areas around the Paracel and Spratly islands in particular have witnessed limited clashes since the mid-1970s. A confrontation at sea could lead to a broader conflict if, for example, an oceanic dispute between Vietnam and China escalated into a land war between the two. The presence of a U.S. treaty ally, the Philippines, may elevate the stakes

for Washington if some deep crisis arises in or around the South China Sea. China's recent claims that the region is part of its exclusive economic zone (EEZ), and therefore subject to Chinese control, represent a test to global norms of free navigation and are a direct challenge to U.S. interests in East Asia.

Depending on the nature and severity of a conflict, U.S. objectives could range from enforcing freedom of navigation against a Chinese effort to control maritime activities in the South China Sea, to helping the Philippines defend itself from an air and maritime attack, to supporting Vietnam and shielding Thailand—another treaty ally—in the event of a land war in Southeast Asia.

Any likely contingency in the South China Sea or Southeast Asia will make demands on U.S. air and naval power to assure friendly dominance of the battlespace. A war on land could create a demand for U.S. land forces—especially SOF and forced-entry capabilities.

China's current ability to project substantial power into the South China Sea region is limited; in particular, the PLA's land-based combat aircraft lack adequate range to operate efficiently so far from home. This assessment will change if China builds aircraft carrier and air-refueling capabilities in the coming years. Direct defense in the South China Sea and Southeast Asia should remain a viable strategy for the next twenty years.

Japan

Sino-Japanese relations are contentious for at least two reasons. First, on the Chinese side, anger, fear, and resentment over Japanese actions from the last years of the 19th century until 1945 remain alive and are not infrequently exacerbated by what China sees as insensitive or insulting Japanese behavior. Second, an ongoing territorial dispute over the Senkaku/Diaoyu islands and overlapping claims to exclusive economic zones in the East China Sea are persistent irritants to the relationship. Conflict could arise from an at-sea incident in the East China Sea, or from the escalation of a war of words amplified by some sort of maritime encounter.

U.S. goals in the event of a Sino-Japanese dispute would be to help defend Japan and, not incidentally, make the case that the United States remains the preferred security partner in Asia despite China's "rise." Doing so would require helping limit damage to Japan and its military and regaining control of the pertinent air and maritime domains. This might require consideration of U.S. as well as Japanese strikes on mainland targets, with all the attendant concerns for escalatory risk.

Growth in China's military capabilities, particularly its naval, air, and missile power-projection forces, will steadily increase the costs of dealing with a contingency of this kind. Absent a general U.S. withdrawal from the Western Pacific or a dramatic reduction in Japan's own self-defense capabilities, however, direct defense of Japan should remain a credible—if increasingly challenging—strategy for the next twenty to thirty years.

India

Conflict between China and India, which view each other as geostrategic rivals on the Asian landmass, could be triggered by an incident along their long-contested common border or a dispute over how to respond to a failing neighboring state such as Burma/Myanmar. Above and beyond the dangers posed by a clash between the world's two most populous countries, the presence of nuclear weapons on both sides creates substantial escalatory risks.

In either circumstance the United States would probably seek to stay out of the conflict, with its chief immediate concern being the safety of tens of thousands of U.S. civilians in the

region and the potential need for large-scale and complex noncombatant evacuation operations (NEOs) in one or more of the affected states. The political hurdles will be complicated and the operational challenges daunting; significant air and naval components along with ground forces would be required. The United States would likely extend overt diplomatic support for India as well as quietly provide New Delhi with intelligence and military equipment. U.S. strategic goals would be to prevent a Chinese victory and avoid vertical escalation (i.e., the use of conventional or nuclear armed ballistic missiles) or horizontal escalation (e.g., involvement of Pakistan).

Operational Implications

The above cases represent the range of plausible military contingencies involving China that the United States could face in and beyond the next decade. They demonstrate that while Sino-U.S. hostilities may be unlikely, the United States needs a wide range of advanced military capabilities to deter or prevail, and in any case to preserve stability and exert influence in regional affairs despite China's growing power and reach. This need is shaped by an increasingly capable PLA and by the diverse circumstances, geography, and domains—land, sea, air, space, cyber—in which conflict could occur. In North Korea, U.S. ground, tactical air, strike, and special operations forces could be needed; in Taiwan, a full array of naval and air forces; in the South China Sea, U.S. blue-water superiority. In addition, these contingencies could place heavy demands on U.S. C4ISR capabilities (largely space-based), given the distances, possible intensity, and U.S. concepts of operations. Other than Korea, the contingencies do not call for sizable U.S. ground forces. U.S. involvement in large-scale land warfare anywhere in East Asia other than Korea is especially improbable. The Korean collapse scenario, judged the most likely, could well involve some competition but probably not open conflict with China, but would in either case call for a significant ground force contribution.

Generally speaking, direct defense by U.S. forces as an operational option is feasible at present, though confidence in this varies from the South China Sea (high) to North Korea (medium) to Taiwan (medium-low). This is the result of the geographic orientation to date of improvements in Chinese anti-access, area-denial, and limited power-projection capability—e.g., short-range missiles—which is especially pronounced along China's eastern coast and toward Taiwan. For the next few years, China would find it difficult to exploit these advantages in a Korean contingency, and the South China Sea lies outside the reach of Chinese sensors, communications, and missiles, much less power projection. Over time, China will be able both to increase its anti-access advantage where it currently exists and to expand it into the Pacific, to Northeast Asia, and eventually to Southeast Asia. In addition, Chinese cyber and anti-satellite (ASAT) capabilities may in time be able to disrupt U.S. C4ISR and thus impair direct defense. In sum, forward operating U.S. forces could become more vulnerable, precisely the top priority of China's military investments and deployments.

The difficulties of direct defense could be greatly accelerated by Chinese development and use of cyber-attack and ASAT weapons, given the dependence of U.S. forces and operating concepts on computer-networked and space-based C4ISR. For this reason, the PLA appears to think that hostilities in space and cyber-space would favor China, and so might initiate them. At the same time, as China extends the reach of its own forces and C4ISR into the Pacific,

they will become vulnerable to U.S. cyber-attack and ASAT. In any case, any Sino-U.S. armed conflict will be increasingly affected if not decided by warfare in these new domains.

The erosion of capabilities for direct defense will push the United States toward enhanced weapons, ranges, geography, and targets both to regain survivability and to strike Chinese forces, launchers, sensors, and other capabilities on the mainland (or elsewhere in the region outside of the immediate theater). In addition, as the PLA develops cyber and ASAT capabilities but also comes to rely more on advanced C4ISR, the United States will have to consider striking Chinese satellites and computer networks. These trends will thus lead both sides to widen their choice of targets in order to achieve dominance over any particular geographic objective, however limited.

The increasing difficulty in ensuring direct defense can be consequential even if Sino-U.S. hostilities are unlikely, for they could stimulate Chinese risk-taking, increase U.S. inhibitions, and weaken the resolve of U.S. allies and China's neighbors in facing a China more insistent on settling disputes on its terms. These trends are the result of underlying general technological progress, sustainable growth in military spending, PLA reform and doctrinal adaptation, and geographic distances for China and the United States. On the other hand, most of China's neighbors are growing economically and in technological sophistication, and some may choose to keep pace in quality if not quantity with Chinese advances in the military field.

Barring unforeseen technological developments that assure survivability for U.S. forces and C4ISR, it will not be possible or affordable for the United States to buck these trends. As the defense of Taiwan is already becoming problematic for U.S. forces (e.g., carriers and nearby air bases), so will U.S. operational options in the event of a confrontation with China over North Korea's collapse and a crisis in Southeast Asia. Over time, the United States will feel the need to rely increasingly on its more distant and less vulnerable capabilities. As U.S. forward operating survivability declines, strike range must increase. U.S. military-operational emphasis in the Western Pacific will thus shift from geographically limited direct defense to more escalatory responses and eventually, when even these will not suffice, from deterrence based on denial to deterrence based on the threat of punishment, with the speed of the shift varying from, first of all, Taiwan, then Northeast Asia, then Southeast Asia at a somewhat later date.

This will move the United States toward a choice between escalation—and deterrence based on Chinese fear of escalation—and noninvolvement in hostilities near China that could bring about direct armed conflict. Escalation can take several paths. Starting with the most severe, the United States can make more explicit what has been only faintly implicit in its strategy toward China: the threat to use nuclear weapons if conventional defense fails, if U.S. forces face defeat, and/or if vital U.S. interests in the region could be harmed. Yet in none of the above cases are U.S. vital interests at stake. Moreover, however low the credibility of a U.S. nuclear threat may be today, it will be lower in the future because of China's clear determination and sufficient capacity to have a survivable second-strike deterrent force able to defeat U.S. missile defense (e.g., through mobile intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), multiple re-entry vehicles/multiple independent re-entry vehicles (MRV/MIRVs), and penetration aids).

Two more plausible and proportional escalation paths for the United States are to disable Chinese satellites and computer networks, starting with those that enable Chinese forces to operate. In both ASAT and cyber-war, it is easier to imagine how hostilities would start than how they would end—very likely with attacks by both sides on critical civilian and economic space systems and networks. The main reason for this is the dual-use nature of much of the

space and cyber infrastructure on which the U.S. military, and in due course the PLA, rely. Compounding the problem is that both escalatory domains are offense-dominant, in that both satellites and computer networks are exceedingly hard and costly to protect against very capable attackers. Even with superior ASAT and cyber-war capabilities, the United States stands to suffer as at least as much as China in space and cyber escalation, given its greater reliance on these domains for military and intelligence missions and for its economic health.

Perhaps the most promising military escalation path for the United States—most credible, least dangerous, and most one-sided in its effects—is that of conventional precision strikes against Chinese war-fighting and war-supporting targets on the mainland or wherever else they might be. To the extent such strikes can be carried out from survivable platforms and/or beyond the range of China’s medium-range missiles, the United States can recover both technological (in targeting at any distance) and geographic advantages. It could also halt or reverse the growing vulnerability of U.S. C4ISR to Chinese cyber and ASAT attacks. How long such advantages, if recovered, could be extended beyond another decade or so depends on how long it takes China to extend the reach of its surveillance, targeting, and strike capabilities. Given China’s economic and technological potential, the answer might not be comforting for long-term U.S. planning. In any case, U.S. conventional escalation, and thus deterrence based on the threat of it, risks Chinese escalation, including cyber and ASAT—risks that may be mitigated but not eliminated by careful choice of targets (avoiding strategic locations, civilians, economic, and leadership targets), but will nonetheless grow over time. Conventional threats to the command and control of Chinese nuclear forces could even prompt a Chinese nuclear response.

Priority Capabilities

As Chinese anti-access and area-denial enhancements improve, the United States will become more dependent on capabilities associated with the threat of escalation. Table 1 indicates the capabilities that are currently important and those that may become more relevant in the future.

Economic Warfare

Sanctions have typically been an option of choice for the United States when the risks, poor cost-effectiveness, and opprobrium associated with military force are too great. But China is far from typical, given the scale and intensity of Sino-U.S. economic interdependence. It is true that for China the loss of export revenue, interest and liquidity of credit, investment returns, and critical imports (oil, food, and commodities) would have a calamitous effect on its economic and possibly domestic stability. However, the effects on U.S. equity and credit markets, the value of the dollar, inflation, investment, consumption, and employment—while less as a percent of GDP—would also be devastating, and lasting. Economic war against China would more accurately be described as economic war *with* China, America’s principal creditor and source of manufactured goods. Such war would likely lead to a global contraction much worse than the one of 2008–2009.

Thus, the question—a very fateful question—for the United States is whether it could design economic measures that could hit China disproportionately hard, even while acknowledging the impact on the U.S. and world economies. One such measure would be interference with seaborne oil shipments to China (food presumably being off-limits even in war). However, oil-transport routes and arrangements are such that the entire region, including Japan,

Table 1
Priority Capabilities

Priority	Direct Defense	Escalation
Surface fleet	X	
Submarine (attack)	X	
Submarine (strike)		X
Tactical air	X	
Long-range airstrike		X
Long-range missiles		X
Heavy land forces	X	
Heavy mobility	X	
Light expeditionary land forces	X	X
Fast mobility	X	X
SOF	X	X
Unmanned platforms		X
Ballistic missile defense (BMD)	X	
Cyber-war (offense and defense)		X
ASAT		X

would suffer some level of disruption as a result of a distant U.S. blockade of Chinese trade. Of course, China would consider such an action to be a major escalation aimed at crippling its economy and endangering domestic stability and the regime itself. China has been expanding its strategic oil reserve and building oil and gas pipelines to Central Asia in order to mitigate such dangers and would likely retaliate by other means.

Strategic Alternatives

America's capacity to ensure the defense of its friends and allies on China's periphery will diminish over the next several decades. This can be offset by a U.S. willingness to employ horizontal and vertical escalation. China also has options in this regard, however. For the United States, a strategy based upon escalation and ultimately on deterrence by punishment means assuming greater risks in the future than in the past to achieve the same objectives. Some American interests in the region may not justify such increased risks. This suggests the need to supplement military deterrence with other forms of dissuasion, resistance, and persuasion.

Mutual Assured Economic Destruction (MAED)

Short of a nuclear exchange, the greatest damage from any conflict with China is likely to come in the economic realm. Massive and mutual economic harm would indeed result from any significant Sino-U.S. armed conflict, even if the two sides eschewed employment of economic weapons. The two economies are linked with each other and with the rest of the world in a manner unparalleled in history. This mutual dependency can be an immensely powerful deterrent, in effect a form of mutually assured economic destruction. At the moment the bal-

ance of advantage rests with the United States, but even the winner in such a contest will wish it had been avoided.

The operation of MAED is somewhat different from classic mutual assured destruction (MAD). It is at least theoretically possible to limit the escalation of a military clash to the sub-nuclear level. It is not possible to so limit the economic consequences. China is not going to continue buying U.S. Treasury notes while the American and Chinese navies clash somewhere off Taiwan or in the South China Sea. Apple is not going to be shipping iPads from its factories in China. Markets will anticipate widespread disruption in U.S.-Chinese and world trade, and advance the consequences, however much Beijing and Washington seek to limit the damage.

As is the case with MAD, even the weaker party gains deterrent benefit from the mutual, if unevenly distributed, destruction. The point could be reached sometime in the next few decades, however, when the balance of dependency had shifted so far against the United States that it no longer represented an effective deterrent to Chinese advances against important if not vital American interests in East Asia.

This is not an argument for seeking to decouple the U.S. economy from the Chinese economy, as that would simply be to dispense with the existent deterrent effect while it still has great force. It is a reason to ensure that the balance of dependency does not shift too heavily against the United States. It is often said that a strong economy is the basis of a strong defense. In the case of China, a strong U.S. economy is not just the basis for a strong defense, it is itself perhaps the best defense against an adventurous China.

Reliance on Diplomacy

If U.S. localized direct defense is endangered by Chinese anti-access capabilities in the near term, and U.S. escalation is constrained by growing risks and growing Chinese military reach in the mid to long term, the United States may be increasingly left without good military-operational alternatives in regional contingencies involving Chinese forces. As several of these cases suggest, this may weigh against U.S. involvement in contingencies where important U.S. interests are not at stake. Unless China commits naked and large-scale aggression—which, to be clear, is not indicated by its current pattern of use of force—this may involve greater reliance on U.S. diplomacy and attempts to head off conflict by accommodating Chinese interests, especially if they have merits. Of course, the declining efficacy of direct defense and increasing riskiness of escalation (and thus of deterrence) would deplete U.S. influence over the outcome of disputes, from maritime and territorial questions up to and including the fate of North Korea and Taiwan.

Building Partner Capacity

Avoidance of direct military defense and escalation does not equate to U.S. passivity in particular contingencies or in regional security generally. The United States has very capable allies in the region in Japan, South Korea, and Australia, as well as other existing and prospective partners that are already bristling at China's growing power and assertiveness, as the developments of the last year suggest. To date, there is no indication of diminishing resolve on the part of China's neighbors. Whether this pattern continues, strengthens, or is reversed by increased Chinese capability to overcome U.S. direct defense and neutralize U.S. escalation threats depends on how the United States encourages regional states to "stand up" to China, politically and materially.

In seeking to stimulate greater local self-reliance, the United States will need to avoid two possible pitfalls. First it will want to avoid extending guarantees that it may not wish to deliver on, and in so doing actually decrease incentives for great local defense efforts. Second, were the United States to be seen trying to align East Asia against China—something it has so far been careful not to do—it could stimulate an arms race with China which, at least locally, it would be hard pressed to win.

If instead the United States follows a dual strategy of engaging China, including in regional security cooperation, while backing and enabling China's East Asia neighbors, it might be able to contribute to regional stability, sustain U.S. influence, and at least protect if not advance U.S. interests in the region. Enabling allied and partner military capabilities, thus increasing the costs of Chinese aggression, could have two basic components: (1) providing critical capabilities (e.g., surveillance and targeting) that only the United States can provide and (2) deterring China's own escalatory options by the threat of counter-escalation, including in space and counter-space, as well as nuclear deterrence in those rare instances where U.S. vital interests are truly engaged.

Shifting the U.S.-China Relationship

A climate of mutual distrust and suspicion clouds the U.S.-China relationship, producing a potent security dilemma. If ignored this dynamic could spiral out of control. Altering it will require both the United States and China to fundamentally rethink their national security goals and strategic assumptions in Asia and beyond. The U.S.-China competition should not be viewed as a zero-sum game; indeed, the United States has a strong interest in changing these perceptions. As China becomes a true peer competitor, it also becomes potentially a stronger partner in the defense as well as economic field. At present, the United States, as the world's only superpower, bears a disproportionate burden for policing the global commons, protecting international commerce and travel, and maintaining international security. China, like most of the world, is a free rider on these efforts. Even as the United States seeks over the next several decades to sustain its defense commitments and advance its interests in East Asia, it will also have an interest in encouraging the world's other emerging superpower to assume greater responsibilities for international peace and security. China's efforts to combat piracy in the Indian Ocean and its growing interest in United Nations peacekeeping should, thus, become the basis for enhanced U.S.-Chinese cooperation. In the long term, the United States will want to look for other ways to leverage Chinese power as well as restrain it. This will be easier and safer to do from a position of relative strength, which argues for starting this process of cooperation sooner rather than later.

Conclusion

With the passage of time and improvement of Chinese capabilities, the United States will find itself forced to shift from deterrence by denial, based on direct defense of its interests and allies in the Western Pacific, to deterrence by punishment, based on the threat of escalation, using longer-range weapons and more survivable platforms. Although the United States can have escalation dominance for some time, assuming it is prepared to conduct conventional strikes on the Chinese mainland, China will develop escalation options of its own, including ASAT and offensive cyber-warfare capabilities, thus increasing U.S. risks in escalation. Chinese stra-

tegic nuclear force improvement, and the limited stakes in the most plausible scenarios for Sino-American conflict, will reduce the credibility of any U.S. threat to use nuclear weapons.

One means of improving the prospects for direct defense and reducing the risk of escalation is for the United States to enable the capabilities and buttress the resolve of China's neighbors. Such a strategy should be designed to raise the costs of Chinese use of force and to check Chinese assertiveness at the expense of regional stability and U.S. interests. Such a strategy should not be—or be seen as—a U.S. attempt to encircle or align the region against China, lest it produce greater Chinese hostility. Indeed, a parallel effort should be made to draw China into cooperative security endeavors, not only to avoid the appearance of an anti-China coalition but also to obtain greater contributions to international security from the world's second-strongest power. The United States should also continue to explore cooperative solutions to some of the above-cited sources of conflict. For instance, the collapse of North Korea could become an opportunity for U.S.-Chinese collaboration.

The economic consequences of a Sino-American conflict could be historically unparalleled, even if both sides avoid economic warfare. This is a powerful mutual deterrent, one marginally in the U.S. favor at present. Strengthening the U.S. economy is the best way of ensuring that the balance of interdependence and of the associated deterrence does not shift dangerously against the United States over the next several decades.

While the risk of conflict with China cannot be ignored, neither should it be exaggerated. Any number of other conflicts are more likely, some in places we cannot even vaguely foresee at present, just as no one foresaw our engagement in the Balkans in 1989, our invasions of Afghanistan and Iraq on September 10, 2001, or our current commitment in Libya as recently as six months ago. These more likely conflicts will be with opponents quite different from China and will call for capabilities quite dissimilar from those required to deal with a real peer competitor. Individually, these contingencies will be less consequential than a conflict with China, but collectively they will shape the international environment in which both countries interact and will fundamentally influence Chinese perceptions of American power and determination. Coping successfully with these smaller challenges may be one of the best ways to ensure that we never have to fight the larger conflict.

Related RAND Research

Cliff, Roger, and David A. Shlapak, *U.S.-China Relations After Resolution of Taiwan's Status*, MG-567-AF, 2007.

<http://www.rand.org/pubs/monographs/MG567.html>

Cliff, Roger, John F. Fei, Jeff Hagen, Elizabeth Hague, Eric Heginbotham, and John Stillion, *Shaking the Heavens and Splitting the Earth: Chinese Air Force Employment Concepts in the 21st Century*, MG-915-AF, 2011.

<http://www.rand.org/pubs/monographs/MG915.html>

Cliff, Roger, Chad J. R. Olandt, and David Yang, *Ready for Takeoff: China's Advancing Aerospace Industry*, MG-1100-USCSRC, 2011.

<http://www.rand.org/pubs/monographs/MG1100.html>

Cooper, Cortez A., *Joint Anti-Access Operations: China's "System-of-Systems" Approach*, CT-356, 2011.

<http://www.rand.org/pubs/testimonies/CT356.html>

Crane, Keith, Roger Cliff, Evan S. Medeiros, James C. Mulvenon, and William H. Overholt, *Modernizing China's Military: Opportunities and Constraints*, MG-260-1-AF, 2005.

<http://www.rand.org/pubs/monographs/MG260-1.html>

Fei, John, *Beyond Rivalry and Camaraderie: Explaining Varying Asian Responses to China*, RGSD-279, 2011.

http://www.rand.org/pubs/rgs_dissertations/RGSD279.html

Medeiros, Evan S., *China's International Behavior: Activism, Opportunism, and Diversification*, MG-850-AF, 2009.

<http://www.rand.org/pubs/monographs/MG850.html>

Overholt, William H., *China's Economy, Resilience and Challenge*, RP-1116, 2004.

<http://www.rand.org/pubs/reprints/RP1116.html>

Pollpeter, Kevin L., *U.S.-China Security Management: Assessing the Military-to-Military Relationship*, MG-143-AF, 2004.

<http://www.rand.org/pubs/monographs/MG143.html>

Scobell, Andrew, *The J-20 Episode and Civil-Military Relations in China*, CT-357, 2011.

<http://www.rand.org/pubs/testimonies/CT357.html>

Shlapak, David A., David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Wilson, *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*, MG-888-SRF, 2009.

<http://www.rand.org/pubs/monographs/MG888.html>

Wolf, Charles, K.C. Yeh, Benjamin Zycher, Nick Eberstadt, and Sung-Ho Lee, *Fault Lines in China's Economic Terrain*, MR-1686-NA/SRF, 2003.

http://www.rand.org/pubs/monograph_reports/MR1686.html